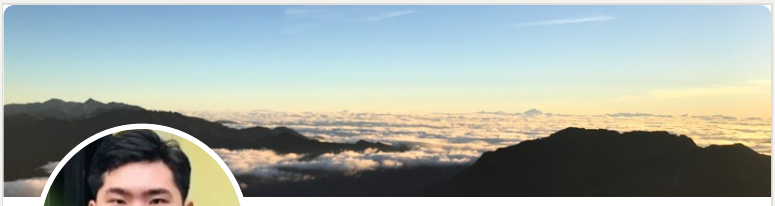

Shu-Yu (Rain) Lin · 1st

Seeking full-time opportunities | M.S. ECE at UMich | Former Intern at Intel Corporation | Embedded Software / Firmware / Firmware Validation / Design Verification

- University of Michigan

Bellevue, Washington, United States · Contact info

Personal Website

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Software Engineer, Firmware Engineer, Embedded Software Engineer, Syste...
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Highlights

You both worked at RealM
You both worked at RealM in June 2024

Message

About

M.S. Electrical and Computer Engineering, University of Michigan 2023/8 - present
B.S. Electrical Engineering, National Taiwan University(NTU) 2018/9 - 2023/1
...

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Top skills
Shell Scripting • Python • Embedded Systems • C (Programming Language) • C++

Services

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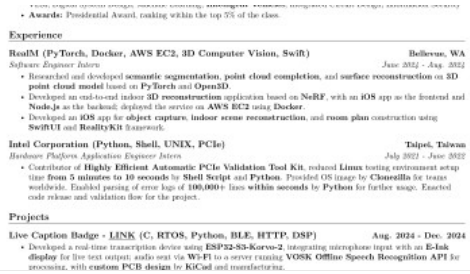

• **Awards:** Presidential Award, ranking within the top 5% of the class.

Experience

RealM (PyTorch, Docker, AWS EC2, 3D Computer Vision, Swift) — Bellevue, WA
Software Engineer Intern — June 2024 - Aug. 2024

- Researched and developed **semantic segmentation**, **point cloud completion**, and **surface reconstruction** on **3D point cloud model** based on **PyTorch** and **Open3D**.
- Developed an end-to-end indoor **3D reconstruction** application based on **NeRF**, with an **iOS** app as the frontend and **Node.js** as the backend; deployed the service on **AWS EC2** using **Docker**.
- Developed an **iOS** app for **object capture**, **indoor scene reconstruction**, and **room plan** construction using **SwiftUI** and **RealityKit** framework.

Intel Corporation (Python, Shell, UNIX, PCIe) — Taipei, Taiwan
Hardware Platform Application Engineer Intern — July 2022 - June 2022

- Contributor of **Highly Efficient Automatic PCIe Validation Tool Kit**, reduced **Linux** testing environment setup time **from 5 minutes to 10 seconds** by **Shell Script** and **Python**. Provided OS image by **Clonezilla** for teams worldwide. Enabled parsing of error logs of **100,000+** lines **within seconds** by **Python** for further usage. Enacted code release and validation flow for the project.

Projects

Live Caption Badge - LINK (C, RTOS, Python, BLE, HTTP, DSP) — Aug. 2024 - Dec. 2024

- Developed a real-time transcription device using **ESP32-S3-Korvo-2**, integrating microphone input with an **E-Ink display** for live text output; audio sent via **Wi-Fi** to a server running **VOSK Offline Speech Recognition API** for processing, with **custom PCB design** by **KiCad** and manufacturing.

CV.pdf
Resume

Activity

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Rohit P. · 3rd+
Resident @ Perplexity AI | CS @ NYU
5d • Edited •

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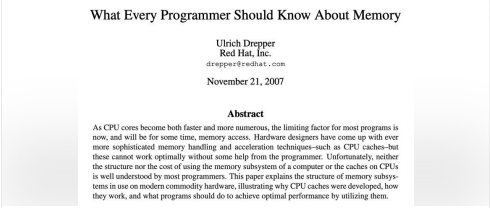

What Every Programmer Should Know About Memory

Ulrich Drepper
Red Hat, Inc.
drepper@redhat.com

November 21, 2007

Abstract

As CPU cores become both faster and more numerous, the limiting factor for most programs is now, and will be for some time, memory access. Hardware designers have come up with ever more sophisticated memory handling and acceleration techniques–such as CPU caches–but these cannot work optimally without some help from the programmer. Unfortunately, neither the structure nor the cost of using the memory subsystem of a computer or the caches on CPUs is well understood by most programmers. This paper explains the structure of memory subsystems in use on modern commodity hardware, illustrating why CPU caches were developed, how they work, and what programs should do to achieve optimal performance by utilizing them.

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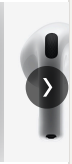

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Experience

Software Engineer Intern
RealM · Internship
Jun 2024 - Aug 2024 · 3 mos
Bellevue, Washington, United States

• Researched and developed semantic segmentation, point cloud completion, and surface reconstruction on 3D point cloud model based...

Node.js, AWS EC2 and +7 skills

Embedded Software Engineer Intern
MIH | Mobility in Harmony · Internship
Sep 2022 - Jan 2023 · 5 mos

• Researched Scheduling and Task Management of RTA-OS3.1 for Automotive electrical and electronic architecture (EEA) development an...

NXP, Embedded Systems and +5 skills

Undergraduate Researcher
National Taiwan University
Sep 2021 - Jan 2023 · 1 yr 5 mos
Media IC & System Lab

• Studied Federated Learning and ReID techniques. Conducted experiments based on Selective Knowledge Aggregation and develope...

Computer Vision, PyTorch and +2 skills

Federated Re-ID
Project Website

Data Center HW Platform Application Engineer Intern
Intel Corporation · Internship
Jul 2021 - Jun 2022 · 1 yr

• Contributor of Highly Efficient Automatic PCIe Validation Tool Kit, reduced Linux testing environment setup time from 5 minutes to 10...

Git, Unix and +11 skills

Undergraduate Researcher
National Taiwan University
Sep 2020 - Feb 2021 · 6 mos
MicroSystem Research Laboratory (MSRL)

• Studied Quantization of Convolutional Neural Network in PyTorch.
• Designed pipelined multi-input format Convolution Multiply Accumula...

C++, PyTorch and +2 skills

Show all 6 experiences →

Education

University of Michigan
Master of Science, Electrical and Computer Engineering
Aug 2023 - Apr 2025

Coursework:
- EECS473 Advanced Embedded Systems ...

Real-Time Operating Systems (RTOS), Embedded Software and +10 skills

National Taiwan University
Bachelor of Science, Electrical Engineering
Sep 2018 - Jan 2023

Presidential Award in 2018 Fall
...

STM32, C (Programming Language) and +4 skills

Licenses & certifications

TOEFL 105/120
ETS
Issued Sep 2022 · Expired Sep 2024

Skills

Control System

Embedded Control Systems

Endorse

Altium Designer

Advanced Embedded Systems

Endorse

Show all 83 skills →

Courses

Advanced Embedded Systems
EECS 473

Associated with University of Michigan

Algorithms
EE4033

Associated with National Taiwan University

Show all 27 courses →

Honors & awards

Presidential Award
Issued by National Taiwan university · Apr 2019

Associated with National Taiwan University

This award is given each semester to students ranking within the top 5% of their class

Interests

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Siebel Scholar '25 | MSCS (thesis) @ UIUC | Computer Vision, Machine Learning, Autonomous Driving | Publish papers in CVPR, NeurIPS
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Lifelong Learner – Managing Business Agility, Risk & Disruption with Lightweight Adaptable Governance & Flow Engineering Methods
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Making it easier for entrepreneurs to find best Engineers - Always Hiring Engineers! 🚀 🚀 🚀

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Sales Professional
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From Shu-Yu's school

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Chemical Engineer and Analyst at Pacific Northwest National Laboratory
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Catalyst Development Expert in Catalyst Center of Excellence, Chemicals and Sustainability
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Distinguished Scientist at Oak Ridge National Laboratory
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Lifan Yan
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Senior Chemist at Eastman
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Branded pay links come with your domains so you can take payments anywhere.

Yongzhe & 2 other connections also follow GoDaddy

$1,989/month extra cash
That's the average earned on a 3-bedroom US Vrbo listing, 11/2020–12/2021.